



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2015-2047; Directorate Identifier 2015-CE-013-AD; Amendment 39-18243; AD 2015-17-10]**

**RIN 2120-AA64**

**Airworthiness Directives; SOCATA Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are superseding Airworthiness Directive (AD) 2007-04-13 for certain SOCATA Model TBM 700 airplanes (type certificate previously held by EADS SOCATA). This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as cracks found on the main landing gear cylinders. We are issuing this AD to require actions to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of March 23, 2007 (72 FR 7576, February 16, 2007).

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-2047; or in person at the Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590.

For service information identified in this AD, contact SOCATA, Direction des Services, 65921 Tarbes Cedex 9, France; telephone: 33 (0)5 62.41.73.00; fax: 33 (0)5 62.41.76.54; or SOCATA North America, North Perry Airport, 7501 S Airport Rd., Pembroke Pines, Florida 33023, telephone: (954) 893-1400; fax: (954) 964-4141; Internet: <http://www.socata.com>. You may view this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the Internet at <http://www.regulations.gov> by searching for Docket No. FAA-2015-2047.

**FOR FURTHER INFORMATION CONTACT:** Albert J. Mercado, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4119; fax: (816) 329-4090; email: [albert.mercado@faa.gov](mailto:albert.mercado@faa.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **Discussion**

We issued a supplemental notice of proposed rulemaking (SNPRM) to make changes to an NPRM (80 FR 8821, February 19, 2015), which would amend 14 CFR part 39 to add an AD that would apply to certain SOCATA Model TBM 700 airplanes (type certificate previously held by EADS SOCATA). That SNPRM was published in the

*Federal Register* on June 11, 2015 (80 FR 33208), and proposed to supersede AD 2007-04-13, Amendment 39-14945, (72 FR 7576, February 16, 2007) (“AD 2007-04-13”).

Since we issued AD 2007-04-13, it has been determined that the time between repetitive inspections should be extended and an optional terminating action for the repetitive inspections is now available.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued AD No. 2006-0085R2, dated January 16, 2015 (referred to after this as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

Cracks on several main landing gear (MLG) cylinders have been reported in service.

This condition, if not detected and corrected, could lead to fatigue cracks in the shock strut cylinder of the MLG, which could result in a collapsed MLG during take-off or landing runs, and possibly reduce the structural integrity of the aeroplane.

To address this unsafe condition, EASA issued AD 2006-0085 to require repetitive special detailed inspections (SDI) for cracks of the MLG shock strut cylinder and, depending on findings, relevant investigative and corrective actions.

After that AD was issued, SOCATA performed an analysis to demonstrate that the inspection interval could be extended, and developed a reinforced MLG less prone to fatigue, which is embodied in production through SOCATA modification (MOD) 70-0190-32 and can be introduced in service through SOCATA Service Bulletin (SB) 70-130-32 at Revision 03.

Prompted by these developments, EASA issued AD 2006-0085R1 to increase the inspection interval and to introduce the installation of a reinforced MLG on the right hand (RH) side and left hand (LH) side as an optional terminating action for the repetitive SDI required by this AD.

Since that AD was issued, it was found that aeroplanes MSN 639 to 683 (inclusive) are not affected by this AD. The applicability has therefore been revised to remove those MSN.

The MCAI can be found in the AD docket on the Internet at:

<http://www.regulations.gov/#!documentDetail;D=FAA-2015-2047-0002>.

In addition, we have determined that airplanes with MLG with forging body that had not reached 1,750 landings as of March 23, 2007 (the effective date of AD 2007-04-13) were not affected by the AD. This is not the intent and allows airplanes to fly indefinitely with the unsafe condition. This AD includes those airplanes with MLG with forging body either at or under 1,750 landings as of March 23, 2007, and extends the time between the repetitive inspections until a reinforced landing gear is installed, which terminates the repetitive inspections.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received one supportive comment to the NPRM (80 FR 8821, February 19, 2015) and no comments on the SNPRM (80 FR 33208, June 11, 2015) or on the determination of the cost to the public.

### **Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting the AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the SNPRM (80 FR 33208, June 11, 2015) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the SNPRM (80 FR 33208, June 11, 2015).

### **Related Service Information under 1 CFR part 51**

EADS SOCATA has issued TBM Aircraft Mandatory Service Bulletin SB 70-130, ATA No. 32, dated January 2006, and SOCATA has issued DAHER-SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, Revision 3, dated December 2014. The actions described in this service information are intended to correct the unsafe

condition identified in the MCAI. The DAHER-SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, Revision 3, dated December 2014, incorporates procedures for replacing cracked MLG with a reinforced MLG as a terminating action for the repetitive inspections. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section of this AD.

### **Costs of Compliance**

We estimate that this AD will affect 431 products of U.S. registry. We also estimate that it will take about 3 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$109,905, or \$255 per product.

In addition, we estimate that any necessary follow-on actions will take about 4 work-hours and require parts costing \$6,000, for a cost of \$6,340 per product. We have no way of determining the number of products that may need these actions.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-2047; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the SNPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

## **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing Amendment 39-14945 (72 FR 7576, February 16, 2007), and adding the following new AD:

**2015-17-10 SOCATA (type certificate previously held by EADS SOCATA):**

Amendment 39-18243; Docket No. FAA-2015-2047; Directorate Identifier

2015-CE-013-AD.

**(a) Effective Date**

This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD supersedes AD 2007-04-13, Amendment 39-14945, (72 FR 7576, February 16, 2007) (“AD 2007-04-13”).

**(c) Applicability**

This AD applies to SOCATA Model TBM 700 airplanes, serial numbers 1 through 638 and 687, that:

- (1) are not equipped with a left-hand main landing gear (MLG) body part number (P/N) D68161 or D68161-1 and a right-hand MLG body P/N D68162 or D68162-1; and
- (2) are certificated in any category.

**(d) Subject**

Air Transport Association of America (ATA) Code 32: Landing gear.

**(e) Reason**

This AD was prompted from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as cracks found on the main landing gear cylinders. In addition, the FAA determined that airplanes with MLG with forging body that had not reached 1,750 landings as of March



23, 2007 (the effective date of AD 2007-04-13) were not affected by AD 2007-04-13. This is not the intent and allows airplanes to fly indefinitely with the unsafe condition. This AD increases the scope of the affected airplanes by including those airplanes with MLG with forging body either at or under 1,750 landings as of March 23, 2007, increases the time between the repetitive inspections, and incorporates a modification to terminate the required repetitive inspections. We are issuing this AD to detect and correct cracks in the shock strut cylinder of the MLG, which could cause the MLG to fail. Failure of the shock strut cylinder of the MLG could result in a collapsed MLG during takeoff or landing and possible reduced structural integrity of the airplane.

**(f) Actions and Compliance for Airplanes not Previously Affected by AD**

**2007-04-13**

Unless already done, do the actions in paragraphs (f)(1), (f)(2), and (h) of this AD:

(1) For MLG with forging body that were either at or under 1,750 landings as of March 23, 2007 (the effective date of (AD 2007-04-13): Upon or before accumulating 1,750 landings on the MLG with forging body since new or within the next 100 landings after [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD), whichever occurs later, inspect the forging body for cracks. Do the inspection following the Accomplishment Instructions of EADS SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, dated January 2006, or DAHER-SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, Revision 3, dated December 2014.

(2) If no cracks are detected during the inspection required in paragraph (f)(1) of this AD, repetitively thereafter inspect at intervals not to exceed 240 landings until a reinforced landing gear specified in paragraph E. Terminating Solution of the Accomplishment Instructions in DAHER-SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, Revision 3, dated December 2014, is installed.

**(g) Actions and Compliance for Airplanes Previously Affected by AD 2007-04-13**

Unless already done, do the actions in paragraphs (g)(1), (g)(2), and (h) of this AD, including all subparagraphs:

(1) As of March 23, 2007 (the effective date retained from AD 2007-04-13), for MLG with forging body totaling more than 1,750 landings but less than 3,501 landings since new:

(i) Inspect the forging body for cracks within 100 landings after March 23, 2007 (the effective date retained from AD 2007-04-13), following the Accomplishment Instructions of EADS SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, dated January 2006, or DAHER-SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, Revision 3, dated December 2014.

(ii) If no cracks are detected during the inspection required in paragraph (g)(1)(i) of this AD, repetitively thereafter inspect at intervals not to exceed 240 landings until a reinforced landing gear specified in paragraph E. Terminating Solution of the Accomplishment Instructions in DAHER-SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, Revision 3, dated December 2014, is installed.

(2) As of March 23, 2007 (the effective date retained from AD 2007-04-13), for MLG with forging body totaling more than 3,500 landings since new:

(i) Inspect the forging body for cracks within 25 landings after March 23, 2007 (the effective date retained from AD 2007-04-13), following the Accomplishment Instructions of EADS SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, dated January 2006, or DAHER-SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, Revision 3, dated December 2014.

(ii) If no cracks are detected during the inspection required in paragraph (g)(2)(i) of this AD, repetitively thereafter inspect at intervals not to exceed 240 landings until a reinforced landing gear specified in paragraph E. Terminating Solution of the Accomplishment Instructions in DAHER-SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, Revision 3, dated December 2014, is installed.

**(h) Actions and Compliance for All Affected Airplanes**

If any cracks are detected during any inspection required in paragraphs (f)(1) through (g)(2) of this AD, including all subparagraphs:

(1) Before further flight, remove the affected landing gear leg and confirm the presence of the crack with dye penetrant inspection or fluorescent penetrant inspection.

(2) If the crack is confirmed, before further flight, contact SOCATA at the address in paragraph (l)(5) of this AD to coordinate the FAA-approved landing gear repair/replacement and implement any FAA-approved repair/replacement instructions obtained from SOCATA, or replace the cracked landing gear with a reinforced landing gear specified in paragraph E. Terminating Solution of the Accomplishment Instructions in DAHER-SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, Revision 3, dated December 2014. This replacement terminates the repetitive inspections required by this AD.

**(i) Calculating Unknown Number of Landings for Compliance**

The compliance times of this AD are presented in landings instead of hours time-in-service (TIS). If the number of landings is unknown, hours TIS may be used by dividing the number of hours TIS by 1.35.

**(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) **Alternative Methods of Compliance (AMOCs):** The Manager, Standards Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Albert J. Mercado,

Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4119; fax: (816) 329-4090; email: albert.mercado@faa.gov. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(2) **Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(k) Related Information**

Refer to MCAI European Aviation Safety Agency (EASA) AD No. 2006-0085R2, dated January 16, 2015, for related information. You may examine the MCAI on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2015-2047-0002>.

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(i) DAHER-SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, Revision 3, dated December 2014.

(ii) Reserved.

(4) The following service information was approved for IBR on March 23, 2007 (72 FR 7576, February 16, 2007).

(i) EADS SOCATA TBM Aircraft Mandatory Service Bulletin SB 70-130, dated January 2006.

(ii) Reserved.

(5) For SOCATA service information identified in this AD, contact SOCATA, Direction des Services, 65921 Tarbes Cedex 9, France; telephone: 33 (0)5 62.41.73.00; fax: 33 (0)5 62.41.76.54; or SOCATA North America, North Perry Airport, 7501 S Airport Rd., Pembroke Pines, Florida 33023, telephone: (954) 893-1400; fax: (954) 964-4141; Internet: <http://www.socata.com>.

(6) You may view this service information at FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. In addition, you can access this service information on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-2047.

(7) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Kansas City, Missouri, on August 14, 2015.

Earl Lawrence,  
Manager, Small Airplane Directorate,  
Aircraft Certification Service.

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